AMENDED CLAIMS

[received by the International Bureau on 23 February 2005 (23.02.05),
original claim 6 amended, remaining claims unchanged (5 pages)]

1. A molecule which contains a partially occluded and/or multimeric presentation of a peptide which is recognised by an HIV-1 neutralising antibody capable of neutralising diverse clinical isolates of HIV-1.

2. A molecule as claimed in claim 1 wherein the HIV-1 neutralising antibody is any of 2F5, IgG_1-b12, 4E10 and Z13.

3. A molecule as claimed in claim 1 or claim 2 wherein the peptide contained within the molecule is a linear epitope of the HIV-1 neutralising antibody.

4. A molecule as claimed in any of claims 1 to 3 which is a homomultimer of a polypeptide chain which polypeptide chain contains a spacer portion, a linear epitope recognised by the HIV-1 neutralising antibody, a multimerisation portion and, optionally, a carrier portion wherein the polypeptide chain has a molecular weight no more than 30 kDa.

5. A molecule as claimed in any of claims 1 to 3 comprising a portion which is a linear epitope recognised by the HIV-1 neutralising antibody and an occluding portion.

6. A molecule according to claim 1 which is a polypeptide of one or more polypeptide chains.

7. A molecule as claimed in any of the preceding claims which is a homomultimer of a polypeptide chain which contains a linear epitope which recognises the HIV-1 neutralising antibody and an occluding portion

wherein the linear epitope is partially occluded by the occluding portion when the polypeptide chain is present in the multimer.

8. A molecule as claimed in any of claims 1 to 7 comprising a first polypeptide chain which contains a linear epitope of the HIV-1 neutralising antibody and a second polypeptide chain which partially occludes the linear epitope on the first polypeptide chain.

9. A molecule as claimed in claim 7 wherein the polypeptide chain contains an occluding portion, the linear epitope, a multimerisation portion and, optionally, a carrier portion.

10. A molecule as claimed in claim 8 wherein the first polypeptide chain contains (1) the linear epitope, (2) a multimerisation portion and, optionally, (3) a carrier portion, and the second polypeptide chain comprises an occluding portion, a multimerisation portion and, optionally, a carrier portion.

11. A trimeric presentation of a peptide as defined in claim 1.

12. A multimeric presentation of a peptide as defined in claim 1 or claim 2 which is stabilised by inter-chain disulphide bridging of the reactive peptides or by other chemical means to generate a three dimensional structure similar to that created by the disulphide-bridged peptides.

13. A polynucleotide encoding a polypeptide chain as claimed in any of claims 6 to 12.

14. A molecule as claimed in any of claims 1 to 10, or a trimeric or multimeric presentation as claimed in claims 11 or 12, or a polynucleotide as claimed in claim 13 for use in medicine.

15. A pharmaceutical composition comprising a molecule as claimed in any of claims 1 to 10, or a trimeric or multimeric presentation as claimed in claims 11 or 12, or a polynucleotide as claimed in claim 13 and a pharmaceutically acceptable carrier.

16. The use of a molecule as claimed in any of claims 1 to 10, or a trimeric or multimeric presentation as claimed in claims 11 or 12, or a polynucleotide as claimed in claim 13 to induce neutralising antibodies in an immunised host organism.

17. A method of obtaining an HIV-1 neutralising antibody, the method comprising administering a molecule as claimed in any of claims 1 to 10, or a trimeric or multimeric presentation as claimed in claims 11 or 12, or a polynucleotide as claimed in claim 13 to an animal, allowing the animal to produce antibodies, and recovering antibodies directly or indirectly from the animal.

18. A method as claimed in claim 17 wherein the antibodies are monoclonal antibodies.

19. A method of obtaining an HIV-1 neutralising antibody, the method comprising selecting an antibody from an antibody display library *in vitro* which binds to a molecule as claimed in any of claims 1 to 10, or a trimeric or multimeric presentation as claimed in claims 11 or 12, and synthesising an antibody containing the binding determinants of the so selected antibody.

20. An antibody obtained in accordance with any of claims 16 to 19 capable of neutralising diverse clinical isolates of HIV-1.

21. An antibody as claimed in claim 20 for use in medicine.

22. A pharmaceutical composition comprising an antibody as claimed in Claim 20 and a pharmaceutically acceptable carrier.

23. A vaccine for the prevention or treatment of HIV-1 infection which comprises a molecule as claimed in any of claims 1 to 10, or a trimeric or multimeric presentation as claimed in claims 11 or 12, or a polynucleotide as claimed in claim 13.

24. Use of a molecule as claimed in any of claims 1 to 10, or a trimeric or multimeric presentation as claimed in claims 11 or 12, or a polynucleotide as claimed in claim 13, or an antibody as claimed in claim 20 in the manufacture of a medicament for treating or preventing HIV-1 infection.

25. A method of treating or preventing HIV-1 infection in an individual the method comprising administering to the individual a molecule as claimed in any of claims 1 to 10, or a trimeric or multimeric presentation as claimed in claims 11 or 12, or a polynucleotide as claimed in claim 13, or an antibody as claimed in claim 20.

26. A method of detecting HIV-1 neutralising antibodies in a sample the method comprising contacting the sample with a molecule as claimed in any of claims 1 to 10 or a trimeric or multimeric presentation as claimed in claims 11 or 12 and determining whether any antibodies present in the sample bind thereto.

27. A method of identifying a molecule which may be useful in raising a neutralising response to HIV-1 the method comprising screening a peptide display library wherein the displayed peptides are from 15 to 40 amino acids in length with an HIV-1 neutralising antibody and selecting those displayed peptides which bind to the antibody.

28. A method according to claim 27 further comprising determining whether the displayed peptides are able to bind to an antibody raised against a linear epitope recognised by the HIV-1 neutralising antibody and selecting those displayed peptides that are not able to so bind.

29. A molecule obtained by the method of claim 27 or 28.